

| Regression Statistics | |
|------------------------------|------------------------|
| Multiple R | 0.883620846 |
| R Square | r^2 0.780785799 |
| Adjusted R Square | 0.760525168 |
| Standard Error | 1.311485261 |
| Observations | $n=15$ |

Excel

$$\hat{y} = a + bx$$

$a \cdot 1$

| | Coefficients | Standard Error | t Stat | P-value |
|-----------------------|-----------------|----------------|----------|-----------|
| Intercept constant | a -1.73106061 | 2.04612023 | -0.84602 | 0.4128433 |
| Minutes | b 0.549242424 | 0.080716215 | 6.80461 | 1.25E-05 |

What is the equation of the LSR line relating minutes spent and policies sold.

$$\hat{y} = a + bx \quad \hat{y} = -1.731 + 0.549x$$

policies sold = $-1.731 + 0.549(\text{mins})$

What is the value of r ? What is the value of r^2 ?

$$r = \sqrt{0.781} = 0.8836$$

$$0.781 = r^2$$

Interpret the slope in the context of the problem?

$$\frac{\Delta y}{\Delta x} = \frac{0.549 \text{ policies}}{1 \text{ mins}}$$

The following is a MINITAB regression printout relating average number of degree-days per month to gas consumption (in cubic feet).

| Predictor | Coef | StDev | T | P |
|-----------|---------------------|-------|-------|-------|
| Constant | ^a 123.24 | 28.60 | 4.31 | 0.004 |
| Degree-d | ^b 20.221 | 1.145 | 17.66 | 0.000 |

~~S = 43.45~~

R-sq = 97.8%

~~R-sq(Adj) = 97.5%~~

SAS
SPSS Fathom

1. What is the equation of the LSR line relating degree days to gas consumption?

$$\hat{y} = 123.24 + 20.221x$$

$$\text{gas}_{\text{consump}} = 123.24 + 20.221(\text{degree days})$$

2. What is the value of r? What is the value of r²?

$$r = \sqrt{0.978} = 0.989$$

$$0.978$$

$$97.8\%$$

3. Interpret the slope in the context of the problem?